



Is your mixed-use development working smartly for you?

Rapid urbanization has led to the rise of mixed-use properties across the major cities of Asia. Combining residential, commercial, cultural, institutional and other uses within the same development parcel, they are seen as a rational answer to high-density living. Mixed developments are popular with planners and developers because of their compact, efficient land use patterns.

Construction Challenges in the Asia Pacific

Disruptions and Shutdowns

The public areas in mixed-use developments, such as corridors, staircases, hallways, lobbies, pools and toilets, are prone to disruptions and even shutdowns due to repair and maintenance works. Besides causing inconvenience, these disruptions may also result in lost business revenues or profitability. To minimize interruptions, it is necessary to ensure a fast return of service but that, to some extent, depends on the infrastructure's basic durability and if it can be easily maintained.

Building Lifespan Extension

Property owners, developers and managers are always challenged to find the most cost efficient solutions to preserve and strengthen the building's structural integrity and extend its service lifespan.

High Traffic in Buildings

As mixed-use developments offer a "live, work, play" environment under the same roof, they experience high traffic loads, with diverse activities carried out onsite, on a daily basis. Unless they can withstand the stress of heavy traffic and usage, the properties will eventually give in to flooring cracks and disintegration, water leaks and other building flaws that could compromise the safety of occupants and visitors.

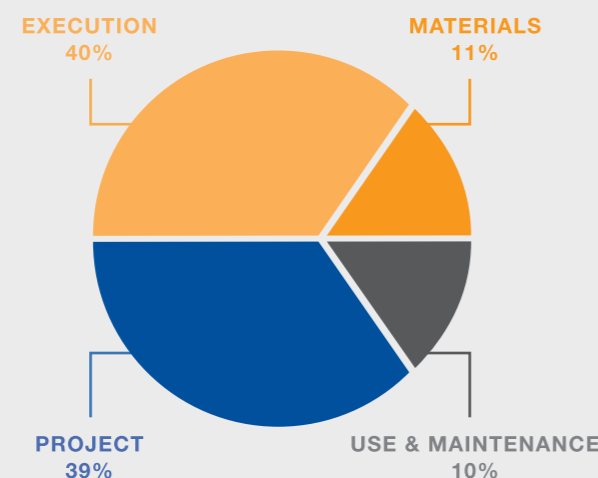
From the occupants' viewpoint, it means shorter commuting time and distance to be living near their workplaces and favorite venues for shopping, leisure and recreation. Despite their benefits, these mixed-use properties present a number of challenges to those responsible for their day-to-day operational efficiency and long-term value enhancement.

Risk Management: Master Builders Solutions System for Successful Solutions

Masters Builders Solutions supplies the broadest portfolio of products and systems for new construction, structural maintenance and refurbishment work. Based on our global knowledge, experience and track records in buildings' risks management, we can help reduce the probability of construction failures at your mixed-use properties.

Tailor-made system strategies to reduce the causes of construction failures and probability of their occurrences that originate from flaws in building design, construction, choice of materials, use and maintenance. Looking beyond superficial damages, we develop safe and sustainable solutions that are compatible to the worksite on your premises.

Causes of construction failures and the probability of their occurrence have been identified following several surveys carried out in the European Union countries, resulting in four basic categories of deficiency:



Master Builders Solutions for the Construction Industry

MasterAir®
Complete solutions for air entrained concrete

MasterBrace®
Solutions for concrete strengthening

MasterCast®
Solutions for hyperplasticized concrete
Solutions for the manufactured concrete product industry

MasterCell®
Density reducing admixtures

MasterCem®
Solutions for cement manufacture

Master Ease®
Solutions for low viscosity concrete

MasterEmaco®
Solutions for concrete repair

MasterFinish®
Solutions for formwork treatment

MasterFlow®
Solutions for precision grouting

MasterGlenium®
Hyperplasticized formulated from state-of-art polymers for ultimate performance
Solution for hyperplasticized concrete

MasterInject®
Solutions for concrete injection

MasterKure®
Solutions for concrete curing

MasterLife®
Solutions for enhanced durability

MasterMatrix®
Advanced rheology control solutions for self-consolidating concrete

MasterPel®
Solutions for water tight concrete

MasterPolyheed®
Solutions for high performance concrete

MasterPozzolith®
Solutions for water-reduced concrete

MasterProtect®
Solutions for concrete protection

MasterRheobuild®
Solutions for superplasticized concrete

MasterRoc®
Solutions for underground construction

MasterSeal®
Solutions for waterproofing and sealing

MasterSet®
Solutions for retardation control

Master Suna®
Solutions for every day concrete

MasterSure®
Solutions for workability control

MasterTile®
Solutions for tiling systems

MasterTop®
Solutions for industrial and commercial floors

MasterWeld™
Adhesives solutions for construction

Master X-Seed®
Advanced accelerator solutions for concrete
Advanced accelerator solutions for pre-cast concrete

Ucrete®
Flooring solutions for harsh environments



Master Builders Solutions

Master Builders Solutions is built on the experience gained from more than a century in the construction industry. The know-how and experience of a global community of constructions experts form the core of Master Builders Solutions. We combine the right elements from our portfolio to solve your specific construction challenges. We collaborate across areas of expertise and regions and draw on the experience gained from countless construction projects worldwide. We leverage state-of-the-art technologies, as well as our in-depth knowledge of local building needs, to develop innovations that help make you more successful and drive sustainable construction.

Our Comprehensive Portfolio

- Concrete Admixtures
- Cement Additives
- Chemical Solutions for Underground Construction
- Waterproofing Solutions
- Sealants
- Concrete Repair and Protection Solutions
- Performance Grouts
- Performance Flooring Solutions

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MASTER®
BUILDERS
SOLUTIONS



Solutions for Mixed-Use Developments



A brand of
MBC GROUP

"I need fast solutions to help me deliver complex and demanding mixed-used construction projects of all sizes."

MasterTop Flooring

Seamless and attractive floor coatings pleasant to walk on.

Protecting floor from harsh conditions to keep facilities up and running faster and longer. Beautifying floors for a unique appearance and to improve user experience, we analysis life cycle costs in building, addressing the **3 key benefits of Master Builders Solutions for floorings:**

20/80

In the entire life cycle of a floor topping, up to 80% of its total cost is accounted from cleaning and maintenance. Material supply and installation cost using MasterTop® flooring is only 20% of the total cost or lesser, but can significantly save maintenance costs over the entire service life of the floor.

Durable

Our MasterTop series floor systems have a service life of 40 to 50 years. Re-topping at intervals of about 10 years maintains the quality and appearance over the service life. By doing so your floor is not only fast and easy to clean but offers outstanding cost-effectiveness.

Cost-effectiveness

- Low maintenance expenses
- Less time and lower cleaning materials consumption for cleaning and maintenance
- Slip resistance range R9/R10/R11
- Ease of application
- Fast return to service

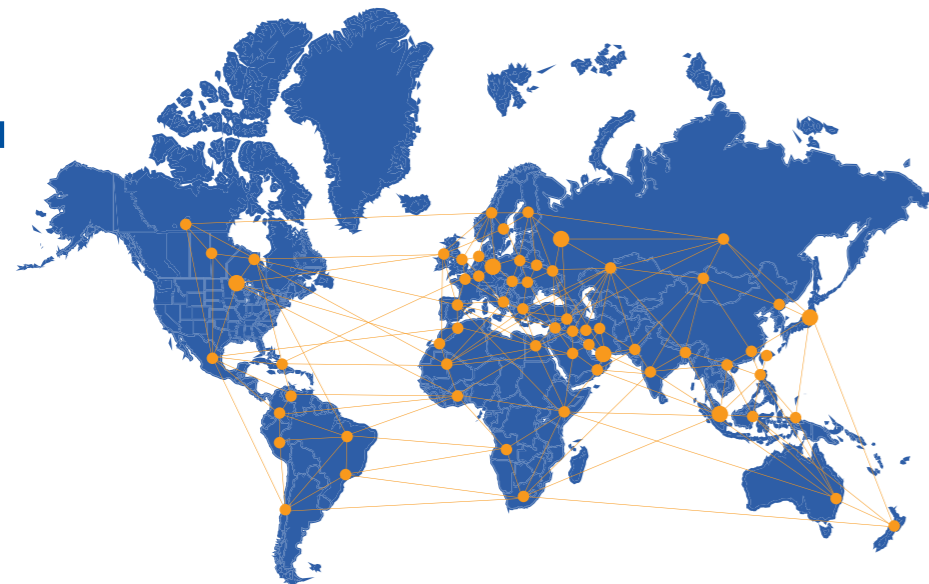
MasterSeal and MasterProtect

Waterproofing and protective coatings from basement to roof, fully-bonded building envelope.

- **Deep basements and below-ground** concrete and wall structures exposed to soil, require protection against the harmful influences of salty groundwater. Fully bonded waterproofing system will preserve your structures for a long time.
- **Concrete protection** against the ingress of carbon dioxide, water and chloride ions from the start can significantly enhance your structure's value and service life, and avoid further deterioration and spalling.
- **External and internal joints** in floors and walls requires flexible and impermeable sealing solutions to accommodate expansion and contractions movement.
- **Roof and trafficable decks** exposed to constant environmental effects and abrasive conditions place high demands in structural integrity and safety of users.

Connected to Succeed

We are the best connected partner enabling expert users of construction solutions to master their challenge.



Improve the building envelope efficiency with MasterSeal, MasterProtect and MasterTop solutions for:

1. Helipads
2. Roofs and podiums
3. Green roofs
4. Car parking structures
5. Wall protection
6. Joint treatments
7. Waterproofing
8. Deep Basements
9. Wet areas and kitchens
10. Swimming pools
11. Floorings
12. Urban water management
13. Urban redevelopment

"According to the World Health Organizations, cities will hold 70% of the world's population by 2050. About 96% of this growth will occur in developing countries, demanding quality urban spaces and services."

Product Guide

	MasterSeal Roof 3000	MasterSeal Traffic 2500 HD	MasterSeal M 800	MasterSeal M 860	MasterSeal HLM 5000 R	MasterSeal Traffic 1500 MD	MasterTop 1230	MasterTop 1080	MasterTop 542 ECC	MasterProtect 200	MasterProtect 300	MasterTop 1705	MasterSeal NP 472	MasterSeal NP 474	MasterSeal HY 495
Roofing	Waterproofing						Flooring			Wall Coating		Sealants			
Exposed roof	✓	✓													
Exposed pedestrian trafficable	✓	✓											✓		
Helipads		✓				✓								✓	
Podiums			✓	✓	✓										
Green Roofs															
Planter boxes			✓	✓	✓										
Promenade, Landscapes			✓	✓	✓										
Root resistance			✓	✓											
Car Parking															
Roof deck						✓									
Intermediate						✓	✓	✓							
Basement							✓	✓	✓						
Wall Protection															
Facades										✓	✓				
Internal wall											✓				
Crack-bridging											✓				
Joint Treatment															
Primer free														✓	✓
High movements														✓	✓
Facades														✓	✓
Trafficable														✓	

	MasterTop 1325	MasterTop 1326	MasterTop 1230	MasterTop 1080	Ucrete TZ	Ucrete MF	MasterTile 15 & 30	MasterTop 545	MasterSeal 540	MasterSeal 555
Comfort Floors	Flooring						Sealing			
Office, Conference floors	✓									
Public traffic		✓	✓	✓						
Decorative floors		✓								
Stores, Food courts	✓									
Underlayment										
Carpet floors							✓			
Tile floors							✓			
Natural stone floors							✓			
Technical Floors										
Loading bays								✓		
Kitchen, food contact								✓		
Waste storage areas								✓		
Sanitarries, Kitchens										
Waterproofing								✓	✓	
< 2 mm Crack-bridging									✓	
< 1 mm Crack-bridging									✓	
Food contact									✓	
Tile adhesives								✓	✓	

	MasterSeal 730 PA	MasterSeal M 800	MasterSeal HLM 5000 R	MasterSeal 840	MasterSeal 910 / 912	MasterInject 1315	MasterSeal 7000 CR	MasterProtect 180	MasterProtect 1812
Basements	Waterproofing		Protection						
Deep basement horizontal	✓								
Deep basement vertical		✓							
Positive side		✓	✓						
Shallow basements	✓	✓							
Joints									
Damp surfaces			✓	✓					
Steel bars protection			✓	✓					
Expansion and cold joints			✓	✓					
Injections									
Steel, Concrete bonding agent							✓		
0.1 - 10 mm cracks							✓		
Urban Water Management									
Potable water								✓	
Sewage water								✓	✓
Internal concrete protection								✓	✓
External concrete protection		✓						✓	✓
Metal structures		✓							
Crack-bridging								✓	

✓ - Strongly Recommended

Life-cycle cost thinking can not only help reduce operation cost, but also helps attract tenants – a very important point for owners and managers of mixed-used facilities. Often the operational costs are passed on to the tenant, so it is not as much of a direct incentive to the developer. Tenants are beginning to see value in long-term life-cycle costing for buildings.